

In the Claims:

1. (Currently Amended) A semiconductor package including
a substrate,
an integrated circuit mounted on the substrate, the integrated circuit including a plurality of IO pads;

a heat conductive plate having a first portion including a central region interposed between the integrated circuit and the substrate, the central region being heat-conductively connected to the integrated circuit and the heat conducting plate having at least one second portion extending laterally out from the central region between the integrated circuit and the substrate, the heat conductive ~~[[pad]]~~ plate being electrically isolated from the IO pads of the integrated circuit; and

a second integrated circuit disposed between the plate and the substrate, the second integrated circuit including a plurality of IO pads, the plate being in heat-conductive contact with the second integrated circuit but being electrically isolated from the IO pads of the second integrated circuit, whereby heat generated by the second integrated circuit is conducted away from the second integrated circuit by the plate.

2. (Original) A semiconductor package according to claim 1 in which the integrated circuit is encased in resin, the plate extending out of the resin, whereby heat generated in the integrated circuit is conducted out of the resin.

3. (Previously Presented) A semiconductor package according to claim 1 in which the second portion includes arms extending laterally from the central region with openings between them, the integrated circuit being connected to the substrate by wire bonding in the openings.
4. (Previously Presented) A semiconductor package according to claim 3 wherein the integrated circuit has a substantially square or rectangular profile and where at least one of the arms extends in a direction which is diagonal relative to the square or rectangular profile of the integrated circuit.
5. (Previously Presented) A semiconductor package according to claim 1 in which the plate is grounded and electrically connected to at least one ground input of the integrated circuit.
6. (Previously Presented) A semiconductor package according to claim 1 in which the plate includes at least one portion of increased thickness laterally outward from the integrated circuit.
- 7-8. (Canceled)
9. (Previously Presented) A semiconductor package according to claim 1 in which the second integrated circuit is a flipchip.
- 10-13. (Canceled)
14. (Previously Presented) A packaged semiconductor device comprising:
a substrate including a plurality of contact regions on an upper surface;

a heat conductive plate mounted over the substrate, the heat conductive plate comprising a central portion and a plurality of arms extending outwardly from the central portion, one or more of the arms extending laterally outwardly from a side surface of the central portion of the plate;

an integrated circuit having a bottom surface mounted over the central portion of the heat conductive plate; and

a plurality of wire bonds between an upper surface of the integrated circuit and the contact regions of the substrate, the wire bonds extending between adjacent ones of the arms of the heat conductive plate such that at least some of the bond wires are electrically isolated from the heat conductive plate.

15. (Previously Presented) The packaged semiconductor device of claim 14 wherein the heat conductive plate further comprises a rim portion that surrounds the central portion and is thermally connected to the central portion by the plurality of arms.

16. (Previously Presented) The packaged semiconductor device of claim 15 wherein the heat conductive plate includes four diagonal arms, each diagonal arm extending outwardly from a corner of the central portion to the rim portion.

17. (Previously Presented) The packaged semiconductor device of claim 16 wherein the heat conductive plate further includes four lateral arms, each lateral arm extending outwardly from a side surface of the central portion of the plate to the rim portion.

18. (Canceled)

19. (Previously Presented) The packaged semiconductor device of claim 14 and further comprising a plurality of balls disposed on a lower surface of the substrate, each of the balls electrically coupled to a respective one of the contact regions.

20. (Previously Presented) The packaged semiconductor device of claim 14 wherein the central portion of the heat conductive plate is affixed to the integrated circuit by heat-conductive glue and wherein the central portion of the heat conductive plate is affixed to the substrate by heat-conductive glue.

21. (Previously Presented) A semiconductor package including:

a substrate;

an integrated circuit mounted on the substrate;

a heat conductive plate having a first portion interposed between the integrated circuit and the substrate, the heat conductive plate being heat-conductively connected to, and electrically isolated from, the integrated circuit and having at least one second portion extending laterally out from between the integrated circuit and the substrate; and

a second integrated circuit disposed between the plate and the substrate, the plate being in heat-conductive contact with the second integrated circuit, whereby heat generated by the second integrated circuit is conducted away from the second integrated circuit by the plate;

wherein the plate includes a central region disposed between the substrate and the

integrated circuit and arms extending laterally from the central region with openings between them, the integrated circuit being connected to the substrate by wire bonding in the openings.

22. (Previously Presented) A semiconductor package according to claim 21 wherein the integrated circuit has a substantially square or rectangular profile and where at least one of the arms extends in a direction which is diagonal relative to the square or rectangular profile of the integrated circuit.

23. (Previously Presented) A semiconductor package according to claim 1 wherein the plate further comprises an attachment to attach to a heat dissipation device.

24. (Canceled)

25. (Previously Presented) The packaged semiconductor device of claim 14 wherein the heat conductive plate further comprising an attachment to attach to a heat dissipation device.

26. (Previously Presented) The packaged semiconductor device of claim 14 wherein the heat conductive plate is connected to an electrical ground.